

## BARRICK MERCUR GOLD MINE

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MINERALS PROGRAM  
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Mr. Loren B. Morton  
Bureau of Water Pollution Control  
Division of Environmental Health  
288 North 1460 West  
P.O. Box 16690  
Salt Lake City, Utah 84116-0690

Dear Mr. Morton:

This letter is to provide information pursuant to your correspondence of October 20, 1989. Your questions refer to the 'Barrick Mercur Gold Mine, Groundwater Monitoring Wells, Dump Leach 2, Contract Documents.' Specifically, Chapter III. 'Technical Specifications,' are referenced unless otherwise noted. Your concerns are addressed in the order of their presentation.

1. Water for Drilling Fluids (Sections 1.2 & 1.9) - The amount of potable water used by the driller should be reported in the Driller's Report and made available to the Bureau. Also, are the water sources mentioned in Section 1.9 potable drinking water supply?

There is every intention of reporting the amount of water used. Please see Paragraph 2.2.2.1.

2. Sand Aggregate in Grout (Section 2.1.5) - any sand aggregate used in the annular grout seal must be inert, to avoid any bias of ground water quality samples. A washed silica sand should meet this criteria.

The sand to be employed in both the pack and grout will be that sand specified in Paragraph 2.1.4. That is a washed and graded silica sand.

3. Discharge Pipe (Section 2.1.11) - Schedule 40 pipe will be limited to a depth of approximately 370 feet, assuming a 160 psi bursting strength. This may not be satisfactory for the deep well's pump, which may need to lift water from 500 ft or more. The schedule of pipe needed should be determined after the well's pump depth and specific capacity are known.

The pipe quoted will suffice for shallow wells. Deeper wells will receive the appropriate pipe for their completion depth. See Paragraph 2.1.1.



4. Soil and Rock Sampling (Section 2.2.3 and 2.2.4) - geologic logs need to be made during sample collection by a trained geolgoist (sic) (see BWPC October 16, 1989 (sic) letter, page 8, comment 3).

The Bureau of Water Pollution Control is aware that the engineering firm of Dames & Moore will provide the drilling quality assurance. Mr. J. Brown will be on site, under the direction of Ms. T. Vandell. In addition, there are nine persons with thirteen geology degrees amongst them in the employ of the Barrick Mercur Gold Mine.

5. Driller Logs (Section 2.2.6) - drillers (sic) logs also need to contain information on: drilling equipment used, drilling fluids, drilling methods and conditions, penetration rate, and circulation losses (see BWPC October 16, 1989 (sic) letter, page 8, comment 3).

Such information is standard for all drilling done at Mercur. There is every intention of providing same on this project.

6. Encountered Mine Workings (Section 2.2.9) - the plugging of a well that has encountered abandoned mine workings should include the use of a mechanical plug or cement basket above the workings. Any well abandonment should conform to the Utah State Engineer's Administrative Rules for Waster (sic) Well Drillings, Section 12.

This is standard procedure for such an abandonment and such compliance will be effected. The driller has been licensed by the State of Utah, and adherence to the Administrative Rules is expected.

7. Placement of Sand Pack (Section 2.4) - the well's sand pack must extend above the casing screen to protect to protect (sic) it from invasion by the overlying bentonite or grout annular seals. Such invasion could hinder or bias ground water sampling.

Such provision is explicit in the documents. Please see the Schedule of Charges in Chapter IV. Specifically, Paragraphs IV.2.6 and IV.2.8.

8. Well development (section 2.7) - well development should continue until the turbidity of the purged water falls below 5 nephelometric turbidity units (NTU, see BWPC October 16, 1989 (sic) letter, page 8, comment 6).

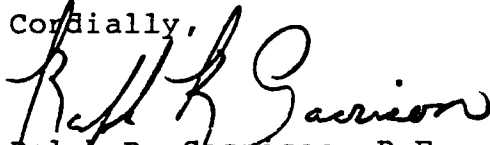
Such compliance will be achieved where the groundwater quantity permits same.

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The succinct nature of these questions and answers allows this concise response. The more comprehensive letter of October 16, 1989 (D. A. Ostler to F. D. Wicks), requires a more time-consuming response. That response is being prepared and will be presented at our earliest opportunity.

We thank you for your attention to these matters and look forward to the initiation of the groundwater monitor well drilling.

Cordially,



Ralph R. Garrison, P.E.  
Construction Engineer

RRS:ms

cc: D. P. Beatty  
G. M. Eurick  
C. L. Landa  
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